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RAW SEQUENCE LISTING   DATE: 08/14/2003
PATENT APPLICATION: US/10/018,113A   TIME: 15:21:2

Input Set : A:\100806_01US1.ST25.txt
Output Set: N:\CRF4\08142003\J018113A.raw

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  3 <110> APPLICANT: Actino Drug Pharmaceuticals GmbH
  5 <120> TITLE OF INVENTION: Method of modifying peptide synthetases such that they can
  6       N-methylate their substrate amino acids
  8 <130> FILE REFERENCE: 100806.01US1
 10 <140> CURRENT APPLICATION NUMBER: US 10/018,113A
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C--> 11 <141> CURRENT FILING DATE: 2002-04-29
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 13 <150> PRIOR APPLICATION NUMBER: DE 199 28 31.3-41
 14 <151> PRIOR FILING DATE: 1999-06-16
 16 <150> PRIOR APPLICATION NUMBER: PCT/DE00/01950
 17 <151> PRIOR FILING DATE: 2000-06-15
 19 <160> NUMBER OF SEQ ID NOS: 78
 21 <170> SOFTWARE: PatentIn version 3.2
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 24 <211> LENGTH: 3849
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Streptomyces chrysomallus
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 34 tgcccgacgc ctcgttggcg gagctgttcg aacaacaggt gaccctcaca cccgacgccc    180
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 50 tcgccaccca ccgcaacatc accgccctcg ccctcgaccc ccgcttcgac cccaccgccc    660
 52 accgccgcgt cctcctccac tcccccaccg ccttcgacgc ctccacctac gagatctggg    720
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 66 cctacgtgct cgacgacagc ctccagcccg tcgcccccgg cgtcaccggc gagctctacc   1140
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 86 tcggcacggg cctgctgctc gcgaagctgg cccccgagtg cgaggagtac tggggcacgg  1740
 88 acctctcgcc caccgtgatc gaggcgctct cccggcacgt cgacgccgac ccggagctgg  1800
 90 cccggcgggt caccctgcgg gccggtgccg cgcacgagca cgaggggctg cccgtcggcc  1860
 92 acttcgacac cgtcgtgctc aactccgtgg tccagtactt cccgaacgcc gactacctcg  1920
 94 cccaggtcat cgagcaggcg ctgcggctgc tggcccccgg cggcgccgtg ttcatcggcg  1980
 96 acatccgcaa cccgcggctg ctgcgcacct tcaccaccgc cgtccagacc gcccgcgcgg  2040
 98 aggacccggc cgacaccgcc gccgtgcggc gcgccgtcga gcagagcctg gtgctggaga  2100
100 aggaactcct ggtcgacccg gagtacttca ccgcgctcac ccaccgcctc ccggacctcg  2160
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106 tggcctggcc gcaggacgcc gaggcactcg cccggcacct ggccgaggcc cggccggagc  2340
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144 atgtgatccc gaactggcag gggctcaccc acgacgacgt cccggccccc gacgaccggg  3480
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163 <212> TYPE: PRT
164 <213> ORGANISM: Bacillus brevis
166 <220> FEATURE:
167 <223> OTHER INFORMATION: GRSB_1 Gramicidin S Synthetase II Pos: 864 to 944
169 <400> SEQUENCE: 2
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179 Ala Asp Asp Lys Gly Gly Lys Tyr Leu Cys Ala Tyr Val Val Met Glu
180      35              40              45
183 Val Glu Val Asn Asp Ser Glu Leu Arg Glu Tyr Leu Gly Lys Ala Leu
184    50              55              60
187 Pro Asp Tyr Met Ile Pro Ser Phe Phe Val Pro Leu Asp His Val Arg
188 65              70              75              80
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192 <211> LENGTH: 80
193 <212> TYPE: PRT
194 <213> ORGANISM: Bacillus brevis
196 <220> FEATURE:
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202 1            5              10              15
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206           20              25              30
209 Glu Asp Asn Asn Gly Gln Lys Ala Leu Cys Ala Tyr Tyr Val Pro Glu
210      35              40              45
213 Glu Glu Val Thr Val Ser Glu Leu Arg Glu Tyr Ile Ala Lys Glu Leu
214    50              55              60
217 Pro Val Tyr Met Val Pro Ala Tyr Phe Val Gln Ile Glu Gln Met Pro
218 65              70              75              80
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222 <211> LENGTH: 79
223 <212> TYPE: PRT
224 <213> ORGANISM: Bacillus brevis
226 <220> FEATURE:
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233 1            5              10              15
236 Gln Leu Arg Lys His Asp Ser Ile Lys Glu Ala Thr Val Ile Ala Arg
237           20              25              30
240 Glu Asp His Met Lys Glu Lys Tyr Leu Cys Ala Tyr Met Val Thr Glu
241      35              40              45
244 Gly Glu Val Asn Val Ala Glu Leu Arg Ala Tyr Leu Ala Asn Asp Arg
245    50              55              60
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249 65              70              75
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254 <212> TYPE: PRT
255 <213> ORGANISM: Bacillus brevis
257 <220> FEATURE:
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260 <400> SEQUENCE: 5
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Input Set : A:\100806_01US1.ST25.txt
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263 1                  5                  10                 15
266 Ala Ile Leu Glu Tyr Glu Lys Ile Lys Glu Ala Val Val Met Val Ser
267              20                 25                 30
270 Glu His Thr Ala Ser Glu Gln Met Leu Cys Ala Tyr Ile Val Gly Glu
271          35                 40                 45
274 Glu Asp Val Leu Thr Leu Asp Leu Arg Ser Tyr Leu Ala Lys Leu Leu
275      50                 55                 60
278 Pro Ser Tyr Met Ile Pro Asn Tyr Phe Ile Gln Leu Asp Ser Ile Pro
279 65                 70                 75                 80
282 <210> SEQ ID NO: 6
283 <211> LENGTH: 82
284 <212> TYPE: PRT
285 <213> ORGANISM: Bacillus subtilis
287 <220> FEATURE:
288 <223> OTHER INFORMATION: SRF1_1 Surfactin Synthetase 1 Pos: 863 to 944
290 <400> SEQUENCE: 6
292 Gln Val Lys Val Arg Gly Tyr Arg Ile Glu Leu Gly Glu Ile Glu Ala
293 1                  5                  10                 15
296 Val Ile Gln Gln Ala Pro Asp Val Ala Lys Ala Val Val Leu Ala Arg
297              20                 25                 30
300 Pro Asp Glu Gln Gly Asn Leu Glu Val Cys Ala Tyr Val Val Gln Lys
301          35                 40                 45
304 Pro Gly Ser Glu Phe Ala Pro Ala Gly Leu Arg Glu His Ala Ala Arg
305      50                 55                 60
308 Gln Leu Pro Asp Tyr Met Val Pro Ala Tyr Phe Thr Glu Val Thr Glu
309 65                 70                 75                 80
312 Ile Pro
316 <210> SEQ ID NO: 7
317 <211> LENGTH: 80
318 <212> TYPE: PRT
319 <213> ORGANISM: Bacillus subtilis
321 <220> FEATURE:
322 <223> OTHER INFORMATION: SRF1_2 Surfactin Synthetase 1 Pos: 1904 to 1983
324 <400> SEQUENCE: 7
326 Gln Val Lys Ile Arg Gly Gln Arg Ile Glu Leu Gly Glu Ile Glu His
327 1                  5                  10                 15
330 Gln Leu Gln Thr His Asp Arg Val Gln Glu Ser Val Val Leu Ala Val
331              20                 25                 30
334 Asp Gln Gly Ala Gly Asp Lys Leu Leu Cys Ala Tyr Tyr Val Gly Glu
335          35                 40                 45
338 Gly Asp Ile Ser Ser Gln Glu Met Arg Glu His Ala Ala Lys Asp Leu
339      50                 55                 60
342 Pro Ala Tyr Met Val Leu Arg Cys Leu Ser Lys Trp Thr Glu Leu Pro
343 65                 70                 75                 80
346 <210> SEQ ID NO: 8
347 <211> LENGTH: 79
348 <212> TYPE: PRT
349 <213> ORGANISM: Bacillus subtilis
351 <220> FEATURE:
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Input Set : A:\100806_01US1.ST25.txt
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352 <223> OTHER INFORMATION: SRF1_3 Surfactin Synthetase 1 Pos: 2934 to 3012
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361   20   25   30
364 Lys Asp Lys Gly Gly Asn Thr Ala Ile Ala Ala Tyr Val Thr Pro Glu
365   35   40   45
368 Ser Ala Asp Ile Glu Ala Leu Lys Ser Ala Leu Lys Glu Thr Leu Pro
369   50   55   60
372 Asp Tyr Met Ile Pro Ala Phe Trp Val Thr Leu Asn Glu Leu Pro
373 65   70   75
376 <210> SEQ ID NO: 9
377 <211> LENGTH: 80
378 <212> TYPE: PRT
379 <213> ORGANISM: Bacillus subtilis
381 <220> FEATURE:
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384 <400> SEQUENCE: 9
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391   20   25   30
394 Lys Asn Lys Ala Asp Glu Asn Glu Ile Cys Ala Tyr Phe Thr Ala Asp
395   35   40   45
398 Arg Glu Val Ala Val Ser Glu Leu Arg Lys Thr Leu Ser Gln Ser Leu
399   50   55   60
402 Pro Asp Tyr Met Val Pro Ala His Leu Ile Gln Met Asp Ser Leu Leu
403 65   70   75   80
406 <210> SEQ ID NO: 10
407 <211> LENGTH: 79
408 <212> TYPE: PRT
409 <213> ORGANISM: Bacillus subtilis
411 <220> FEATURE:
412 <223> OTHER INFORMATION: SRF2_2 Surfactin Synthetase 2 Pos: 1899 to 1977
414 <400> SEQUENCE: 10
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417 1   5   10   15
420 Val Met Leu Ser Leu Ser Gly Ile Gln Glu Ala Val Val Leu Ala Val
421   20   25   30
424 Ser Glu Gly Gly Leu Gln Glu Leu Cys Ala Tyr Tyr Thr Ser Asp Gln
425   35   40   45
428 Asp Ile Glu Lys Ala Glu Leu Arg Tyr Gln Leu Ser Leu Thr Leu Pro
429   50   55   60
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433 65   70   75
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437 <211> LENGTH: 79
438 <212> TYPE: PRT

VERIFICATION SUMMARY   DATE: 08/14/2003
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Input Set : A:\100806_01US1.ST25.txt
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L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date